

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. **(Currently Amended)** In a data-storage system, a method for providing data indicative of the performance of a competing algorithm and an incumbent algorithm, said method comprising:

evaluating an incumbent-algorithm score indicative of a performance of an incumbent algorithm;

simulating performance of a competing algorithm executing in place of said incumbent algorithm;

on the basis of said simulation, evaluating a competing-algorithm score predictive of a corresponding performance of said competing algorithm; and

providing said competing-algorithm score and said incumbent-algorithm score to an output device.

2. **(Currently Amended)** The method of claim 1, further comprising providing data indicative of a performance difference between [~~whether~~] said competing algorithm [~~is preferable to~~] and said incumbent algorithm.

3. **(Currently Amended)** The method of claim 2, wherein providing data comprises monitoring said incumbent-algorithm score and said competing-algorithm score [~~over~~] during a selected interval.

4. **(Original)** The method of claim 3, wherein providing data further comprises displaying data indicative of a performance of said incumbent algorithm and said competing algorithm during said selected interval.
5. **(Currently Amended)** The method of claim [3] 4, wherein displaying data comprises evaluating a ratio indicative of an extent to which said competing-algorithm score exceeds said incumbent algorithm score during said selected interval.
6. **(Original)** The method of claim 1, wherein simulating performance comprises:

obtaining meta-data characterizing an input-data stream provided to said incumbent algorithm; and

simulating performance of said competing algorithm were it to operate on an input-data stream characterized by said meta-data.
7. **(Original)** The method of claim 6 wherein obtaining meta-data comprises maintaining statistics descriptive of said input data-stream during a selected interval.
8. **(Original)** The method of claim 1, wherein evaluating a competing-algorithm score comprises incorporating a penalty into said competing-algorithm score.
9. **(Original)** The method of claim 8, further comprising selecting said penalty to be indicative of a cost associated with replacing said incumbent algorithm with said competing algorithm.
10. **(Original)** A method for providing data indicative of a performance of a competing algorithm and an incumbent algorithm in a data-storage system, said method comprising:

statistically characterizing a usage pattern of said data-storage system; and

on the basis of said statistical characterization, simulating a performance of said competing algorithm were it to execute on said data-storage system in place of said incumbent algorithm.

11. **(Currently Amended)** The method of claim 10, further comprising:

evaluating actual performance of said incumbent algorithm in response to said usage pattern;

simulating said performance of said competing algorithm in response to said usage pattern; and

communicating, to an output device, data indicative of a comparison between said actual performance of said incumbent algorithm and said simulated performance of said competing algorithm.
12. **(Original)** The method of claim 10, wherein statistically characterizing a usage pattern of said data-storage system comprises generating meta-data that characterizes an input data-stream to said data-storage system.
13. **(Currently Amended)** The method of claim 11, further comprising incorporating a cost of replacement into a performance selected from the group consisting of:

(1) said actual performance of said incumbent algorithm, and

(2) [a] said simulated performance of said competing algorithm.
14. **(Currently Amended)** A method for comparing performances of a plurality of algorithms in performing a task, said method comprising:

simulating execution of a competing algorithm operating on [~~said~~] an input stream;

evaluating, on the basis of said simulation, a competing-algorithm performance of said competing algorithm;

evaluating an incumbent-algorithm performance of an incumbent-algorithm operating on said input stream; and

providing data indicative of a comparison between said incumbent-algorithm performance and said competing-algorithm performance.

15. (Currently Amended) A data-storage system comprising[÷]

a processor,

and computer-readable media having software encoded thereon, said software having instructions for causing the processor to execute

a data-condenser configured to receive a data-stream, said data-condenser generating meta-data characterizing said data stream;

a competing-algorithm simulator in communication with said data-condenser, said competing algorithm simulator generating data indicative of a performance attribute of a competing algorithm when said competing algorithm operates on a data-stream characterized by said meta-data; and

a tournament manager configured to provide output data indicative of a comparison between a performance attribute of said competing algorithm and a corresponding performance attribute of an incumbent algorithm.

16. (Currently Amended) A computer-readable medium having encoded thereon software for providing data indicative of the performance of a competing algorithm and an incumbent algorithm, said software comprising instructions for:

evaluating an incumbent-algorithm score indicative of a performance of an incumbent algorithm;

simulating performance of a competing algorithm executing in place of said incumbent algorithm;

on the basis of said simulation, evaluating a competing-algorithm score predictive of a corresponding performance of said competing algorithm; and

providing said competing-algorithm score and said incumbent-algorithm score to an output device.

17. **(Currently Amended)** The computer-readable medium of claim 16, wherein said software further comprises instructions for providing data indicative of a performance difference between ~~[whether]~~ said competing algorithm ~~[is preferable to]~~ and said incumbent algorithm.
18. **(Currently Amended)** The computer-readable medium of claim 17, wherein said instructions for providing data comprise instructions for monitoring said incumbent-algorithm score and said competing-algorithm ~~[score]~~ during over a selected interval.
19. **(Original)** The computer-readable medium of claim 18, wherein said instructions for providing data further comprise instructions for displaying data indicative of a performance of said incumbent algorithm and said competing algorithm during said selected interval.
20. **(Currently Amended)** The computer-readable medium of claim ~~[18]~~ 19, wherein said instructions for displaying data comprise instructions for evaluating a ratio indicative of an extent to which said competing-algorithm score exceeds said incumbent algorithm score during said selected interval.
21. **(Currently Amended)** The computer-readable medium of claim 16, wherein said instructions for simulating performance comprise instructions for:

obtaining meta-data characterizing an input-data stream provided to said incumbent algorithm; and

wherein simulating performance of a competing algorithm comprises simulating performance of said competing algorithm were it to operate on an input-data stream characterized by said meta-data.

22. **(Original)** The computer-readable medium of claim 21 wherein said instructions for obtaining meta-data comprise instructions for maintaining statistics descriptive of said input data-stream during a selected interval.
23. **(Original)** The computer-readable medium of claim 16, wherein said instructions for evaluating a competing-algorithm score comprise instructions for incorporating a penalty into said competing-algorithm score.
24. **(Original)** The computer-readable medium of claim 23, wherein said software further comprises instructions for selecting said penalty to be indicative of a cost associated with replacing said incumbent algorithm with said competing algorithm.
25. **(Original)** A computer-readable medium having encoded thereon software for providing data indicative of a performance of a competing algorithm and an incumbent algorithm in a data-storage system, said software comprising instructions for:
- statistically characterizing a usage pattern of said data-storage system; and
- on the basis of said statistical characterization, simulating a performance of said competing algorithm were it to execute on said data-storage system in place of said incumbent algorithm.
26. **(Currently Amended)** The computer-readable medium of claim 25, wherein said software further comprises instructions for:
- evaluating actual performance of said incumbent algorithm in response to said usage pattern;
- simulating said performance of said competing algorithm in response to said usage pattern; and

communicating, to an output device, data indicative of a comparison between said actual performance of said incumbent algorithm and said simulated performance of said competing algorithm.

27. **(Original)** The computer-readable medium of claim **25**, wherein said instructions for statistically characterizing a usage pattern of said data-storage system comprise instructions for generating meta-data that characterizes an input data-stream to said data-storage system.
28. **(Currently Amended)** The computer-readable medium of claim **26**, wherein said software further comprises instructions for incorporating a cost of replacement into a performance selected from said actual performance of said incumbent algorithm and [a] said simulated performance of said competing algorithm.
29. **(Currently Amended)** A computer-readable medium having encoded thereon software for comparing performances of a plurality of algorithms in performing a task, said software comprising instructions for:
 - simulating execution of a competing algorithm operating on said input stream;
 - evaluating, on the basis of said simulation, a competing-algorithm performance of said competing algorithm;
 - evaluating an incumbent-algorithm performance of an incumbent-algorithm operating on said input stream;
 - providing data indicative of a comparison between said incumbent algorithm and said competing algorithm.